Table A-33. Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company, by type of cost: 2001

Industry and size of company	NAICS codes	Total R&D cost [1]	Wages of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
		[In millions of dollars]	[Percent]				
Distribution by industry:							
All industries	21-23, 31-33, 42, 44-81	198,505	43.7	4.3	12.8	3.6	35.7
Manufacturing	31-33	120,705	41.8	4.4	15.4	3.7	34.7
Food	311	1,819	42.6	6.6	12.0	4.8	34.0
Beverage and tobacco products	312	152	44.5	11.3	1.6	0.0	42.6 (S)
Textiles, apparel, and leather	313-16	(D)	41.9	0.0	(D)	(D)	41.0
Wood products	321	182	61.5	0.2	17.0	6.5	14.8 (S)
Paper, printing and support activities	322, 323	(D)	45.0	(D)	12.9	(D)	38.6
Petroleum and coal products	324	(D)	64.0	0.0	(D)	(D)	27.2
Chemicals	325	17,892	34.8	3.1	9.2	4.7	48.2
Basic chemicals	3251	1,876	42.7	3.8	10.7	5.5	37.3
Resin, synthetic rubber, fibers, and filament	3252	(D)	49.8	(D)	10.4	(D)	28.2
Pharmaceuticals and medicines	3254	10,137	27.1	2.9	8.3	3.7	58.0
Other chemicals	325 minus (3251-52, 3254)	(D)	45.0	(D)	10.2	(D)	37.4 (S)
Plastics and rubber products	326	(D)	48.4	(D)	25.1	(D)	16.3
Nonmetallic mineral products	327	990	38.8	6.7	14.6	2.2	37.6 (S)
Primary metals	331	485	74.5	2.8	5.5	2.0	15.2
Fabricated metal products	332	1,599	49.7	5.5	12.4	2.8	29.6 (S)
Machinery	333	6,404	43.2	2.2	25.4	3.9	25.2
Computer and electronic products	334	47,079	45.0	3.0	16.5	5.3	30.2 (S)
Computers and peripheral equipment	3341	(D)	49.6	(D)	13.2	6.6	(D)
Communications equipment	3342	15,507	48.5	1.1	26.1	1.1	23.2
Semiconductor and other electronic components	3344	14,358	44.0	6.1	13.5	10.1	26.2
Navigational, measuring, electromedical, and control instruments	3345	12,947	41.0	1.8	11.1	4.2	42.0 (S)
Other computer and electronic products	334 minus (3341-42, 3344-45)	(D)	65.5	(D)	10.0	3.9	(D)
Electrical equipment, appliances, and components	335	4,980	47.8	3.3	15.8	2.6	30.4 (S)
Transportation equipment	336	25,965	43.0	8.6	18.6	1.5	28.3 (S)
Motor vehicles, trailers, and parts	3361-63	(D)	46.3	(D)	18.3	1.3	(D)
Aerospace products and parts	3364	7,868	36.3	1.4	19.1	1.8	41.4
Other transportation equipment	336 minus (3361-64)	(D)	42.1	(D)	18.5	0.9	(D)
Furniture and related products	337	301	62.6	10.4	18.0	1.2	7.8 (S)
Miscellaneous manufacturing	339	6,606	19.5	2.0	6.6	0.6	71.4
Medical equipment and supplies	3391	(D)	16.2	(D)	6.3	(D)	75.6
Other miscellaneous manufacturing	339 minus (3391)	(D)	57.7	(D)	9.0	(D)	23.8
Other manufacturing	31-33 minus (311-16, 321-27, 331-37, 339)	--	--	--	--	--	--

See explanatory information and SOURCE at end of table.

Table A-33. Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company, by type of cost: 2001

Industry and size of company	NAICS codes	Total R&D cost [1]	Wages of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
		[In millions of dollars]	[Percent]				
Distribution by industry:							
Nonmanufacturing	21-23, 42, 44-81	77,799	46.8	4.1	8.1	3.6	37.5
Mining, extraction, and support activities	21	(D)	55.9	3.9	11.4	(D)	(D)
Utilities	22	133	21.7	0.6	31.6	0.0	46.1
Construction	23	320	54.0	3.1	29.4	0.6	13.0
Trade	42, 44, 45	24,372	35.3	3.6	8.1	3.6	49.4
Transportation and warehousing	48, 49	1,848	52.4	17.8	1.4	0.0	28.4 (S)
Information	51	(D)	65.6	5.1	3.2	(D)	(D)
Publishing	511	13,760	62.0	5.8	3.4	2.7	26.2
Newspaper, periodical, book, and database	5111	649	63.0	4.3	3.0	12.6	17.2
Software	5112	13,111	62.0	5.8	3.4	2.4	26.4 (S)
Broadcasting and telecommunications	513	(D)	85.9	2.1	(D)	4.2	(D)
Radio and television broadcasting	5131	(D)	0.0	0.0	(D)	0.0	(D)
Telecommunications	5133	(D)	85.9	2.1	(D)	4.3	(D)
Other broadcasting and telecommunications	513 minus (5131, 5133)	(D)	85.0	2.4	(D)	4.6	(D)
Other information	51 minus (511, 513)	(D)	77.7	2.0	2.7	(D)	(D)
Finance, insurance, and real estate	52, 53	(D)	76.4	4.2	(D)	(D)	9.6
Professional, scientific, and technical services	54	27,704	42.5	4.0	12.1	4.8	36.5
Architectural, engineering, and related services	5413	3,386	40.2	5.7	16.9	6.0	31.1
Computer systems design and related services	5415	9,154	65.9	4.0	4.3	3.7	22.1
Scientific R&D services	5417	14,244	35.8	3.6	13.7	5.1	41.9
Other professional, scientific, and technical services	54 minus (5413, 5415, 5417)	920	40.6	7.7	6.6	1.5	43.5
Management of companies and enterprises	55	381	31.7	0.4	3.2	1.4	63.3
Health care services	621-23	1,149	47.2	0.7	10.9	1.1	40.1
Other nonmanufacturing	56, 61, 624, 71, 72, 81	1,259	50.9	0.0	2.1	0.3	46.7

See explanatory information and SOURCE at end of table.

Table A-33. Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company, by type of cost: 2001

Industry and size of company		Total R&D cost [1]	Wages of R&D personnel	Fringe benefits of R&D personnel	Materials and supplies	R&D depreciation	Other costs
		[In millions of dollars]	[Percent]				
Distribution by size of company: [Number of employees]							
Total		198,505	43.7	4.3	12.8	3.6	35.7
5 to 24		4,828	44.8	8.2	14.4	4.4	28.1
25 to 49		3,750	33.0	3.9	11.7	3.9	47.6
50 to 99		8,202	38.7	4.0	14.7	4.0	38.7
100 to 249		12,916	42.4	4.1	13.2	5.0	35.3
250 to 499		8,702	47.3	3.7	11.0	4.3	33.6
500 to 999		10,564	43.4	4.6	12.1	4.3	35.6
1,000 to 4,999		26,748	48.4	4.3	10.4	4.5	32.4
5,000 to 9,999		17,487	44.0	2.6	13.1	3.4	36.9
10,000 to 24,999		27,065	36.1	3.2	10.6	2.9	47.2
25,000 or more		78,244	44.6	5.0	14.3	3.4	32.7

[1] Beginning with 2001, statistics for total and Federally funded industrial R&D exclude data for Federally Funded Research and Development Centers (FFRDCs).

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.

NOTE: Starting in 1999, the frame from which the statistical samples were selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, in prior reports detailed industry statistics were published only from the large company partition; detailed industry statistics from the small company partition were not. Statistics from the small company partition were included in the manufacturing, nonmanufacturing, and all industries totals, but were aggregated into "small manufacturing" and "small nonmanufacturing" classifications instead of being included in their respective industry classifications. For this report, this practice was evaluated and discontinued because it was determined that the data for small companies are more useful if they are included in their respective industries even given the sampling concerns described above. Consequently, the "small manufacturing" and "small nonmanufacturing" stublines are no longer present. Statistics for the firms in the small company classifications are not shown separately in this table, but are included in the manufacturing, nonmanufacturing, and all industries totals. For more information, see the technical notes in Survey of Industrial Research and Development Methodology: 2001 at http://www.nsf.gov/sbe/srs/sird/start.htm.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2001